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ABSTRACT

Martin Seligman's psychology research on depression, published in 7 books and hundreds of articles, shows a correlation between attributional style and depression. "Explanatory style" is another term nearly synonymous with attributional style, a habitual way to explain, positively or negatively, external events. A "learned" optimist himself, Seligman believed that habits of explanation can change: ergo, his book purports to teach the failure-prone human to change rhetorical styles. A study explored the extent to which students' attributional style determines their performance in freshman composition. The study began with a sampling of 80 students but through attrition lost about 35%. An Attributional Style Questionnaire was given to the students at the beginning of the course, as well as a writing test at the beginning and again at the end of the course. The majority of students in the sample had higher-range hopefulness scores. Whereas 38% of those students with lower-range hopefulness scores showed writing improvement, 58% of the students with higher-range hopefulness scores demonstrated increased ability in their writing performance. Although these results are not statistically significant, they are in a predicted direction. In other words, students with higher hopefulness scores are likely to show improved writing ability. These results may warrant further research even though they are not conclusive in themselves. (Contains four tables of data.) (TB)

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Attributional Style and The Freshman Writer

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Conference on College Composition and Communication

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Introduction: The Origins, Seligman's Work, and The Research Design

Since first reading Learned Optimism in 1993 and conducting some preliminary research in the Spring of 1995 with colleague and former social worker turned writing teaching Judy Mercier, I keep finding Martin Seligman and his work in the most diverse places, most recently in a January Good Housekeeping article on behavior and optimism I browsed through on my dentist's amazingly abundant magazine table. And in Daniel Golman's best-selling Emotional Intelligence, passed on to my by my department chair (I suspect he's about to embark on a new managerial approach!), who is aware and supportive of our research with freshman writers. Who is Martin Seligman? And what is he doing on the dentist's table and in a best seller and in a research project on attributional style and the freshman writer? And what is attributional style anyway? These are a few of the questions we will try to answer today.

My initial interest in Seligman's work came about by chance when one of my colleagues recommended LO to me in 1993. In addition to my interest in Seligman's research in studying the relationship between learned helplessness and depression, I began, almost immediately, to wonder if there were some way to study freshman writers using Seligman's research in order to be able to predict which students were likely to improve and succeed and which were more likely not to improve and drop out of the university altogether. I knew that Seligman had used the test at the University of Pennsylvania, where he is a professor of psychology, as a predictive measure for the Class of '87. "Fully one-third of the students (at the end of the first semester) had done either much better or much worse than their SATs, high-school grades, and achievement tests predicted" (152). What Seligman found out about freshmen was what he had found out about life-insurance salesmen and fourth graders and the Boston Celtics organization: Those who did better than expected were "optimists" when they entered; those who did worse than their scores and other profiles had indicated had entered as "pessimists." It would come as no surprise to some of my colleagues--who had heard me once propose not entirely jokingly that we consider a study to see if there were any

correlation between astrological sign and student performance in writing classes--that I proposed in the spring on 1995, when the department was running five pilot courses of our new freshman curriculum, that we tie a research project to it to see if students' scores on the Attributional Style Questionnaire (known affectionately to the many researchers who have used it as ASQ) could in any way be correlated with their success or failure in English 101. Knowing Judy's interest in social sciences, and as fortune would have it, knowing she had a kind and generous husband who could crunch numbers through SAS, I asked her to join me in the project. "Yes," she said, optimistically. And here we are.

Seligman has written seven books, Helplessness: On Depression, Death, and Development; Biological Boundaries of Learning; Psychopathology: Experimental Models (I wonder if his subjects were writing teachers); Human Helplessness: Theory and Applications; Abnormal Psychology; Learned Optimism; and What You Can Change and What You Can't. His article count numbers over one hundred. The studies spawned by his theories nearly match his own. Our request for permission to Dr. Seligman to use his test as part of our research (October 12, 1994) prompted a quick reply, a small fee for permission to duplicate the ASQ, and some interest in our proposal by Seligman's research assistant who indicated that, as far as he knew, this would be the first time this research had been applied to measuring student writing improvement as a component of learned optimism.

Before I describe the fundamental processes of our research, a few essential definitions are in order. Seligman supports the proposition that "self-direction, rather than outside forces, can explain human action" (9). Another phrase common to his vocabulary is "personal control." Helplessness, which perpetuates failure and depression, is a learned response from internalized beliefs that things won't change. "Explanatory style" is another term nearly synonymous with attributional style, a habitual way to explain, positively and negatively, external events. Optimists explain events in different ways from pessimists. There are, to put it another way, different rhetorics of explanation that influence success or failure in individuals. A "learned" optimist himself, Seligman would have us believe that habits of explanation can change: ergo, his book purports to teach the failure-prone human in the last half of the millennium to change rhetorical style

(attributing cause to and interpreting external events constructively). Three dimensions make up explanatory style: permanence, pervasiveness, and personalization (44). I'll give you three brief examples of each adapted to some writing student's explanation in response to, say, a poor grade on a paper.

Permanence:

Permanent (pessimistic)	Temporary (optimistic)
1. My writing never is good.	My writing isn't good when I write it right before class.

Pervasiveness: Specific vs. Universal

1. Everything I write is lousy.	I have trouble with analysis in some papers.

Personalization: Internal vs. External

1. I'm just stupid when it comes to writing these critiques.	I just didn't have any training at this in high school to prepare for these critiques.

I wonder if I would have done better in my university calculus course if, instead of saying to myself, "I'm just no good in math," I had said, "I think I better get help from my math-smart roommate because these TA's can't teach"? In case you were wondering, Seligman does not advocate--as an extension of his methodologies--lack of responsibility. He argues, in fact, that assigning temporary and external causes allows people to change, to take responsibility for their own actions. Undaunted then, even by the huckstering quotation by Robert Schuller on Learned Optimism's cover "One of the most important books of the century," Judy and I planned a research project that started from the basic question: "Will student scores on the ASQ serve as accurate predictors of student writing performance in English 101?"

To find an answer, after first seeking and gaining approval from our local Review Board for the Protection of Human Subjects (thanks to another psychologist, Stanley Milgram), we enlisted the help of four colleagues teaching English 101 in the spring semester of 1995. For a measure of writing improvement, we decided to use the current writing placement test, to be administered in the first and last week of the semester and evaluated at the end of the semester by an experienced faculty reader who would simply assign, without knowing which sample was pre or post, a numerical score of 5, 4, 3, 2, 1 to each one of the pairs for each student. At the

3. What, if any, relationship exists between an instructor and students' writing achievement?

As previously mentioned, we obtained completed attributional-style questionnaires from 80 students in six sections of freshman writing with identical curriculums. No two sections were taught by the same instructor, and all but one of these instructors provided responses on the ASQ.

In addition to the attributional style questionnaires, the same eighty students completed demographic surveys and a pre-course writing exercise during the first week of class. Prior to taking their final exams, each student still participating in the study wrote a post-course exercise, using the same writing prompt given at the beginning of the semester.

Both pre-and post-course writing exercises for each student were holistically evaluated without the rater knowing which of the two exercises was written before or after completion of the course. After evaluation, we determined whether students showed an increase, a decrease, or no difference in their writing ability between the first and second writing exercises. The variance in pre-and post-course writing exercise scores is referred to as "diagnostic difference."

Table 1 provides descriptive statistics of the student sample.

TABLE 1 (appendix)

As the first line on table 1 reflects, we lost 35% of our original sample. Numerous factors--students who withdrew from class prior to the semester's end, students absent from class on the day the post-course exercise was administered, students who no longer wished to participate in the study, and instructors who failed to collect the post-course exercise at the end of the semester--may have caused this erosion.

Demographics on this sample, both before and after its erosion, reveal that students were typically white females in their early twenties who had completed no more than six courses and had GPAs in the "C" or average range.

The last three entries on table 1 describe the sample's mean helplessness, hopefulness, and composite scores on the Attributional Style Questionnaire. Because the ASQ measures how a person interprets cause, permanence, and pervasiveness of both

beginning of the course, we also asked students to take Seligman's ASQ, a test thoroughly reviewed for its reliability as detailed in "Attributional Style Questionnaire" in Test Critiques, Vol. 4, published by the Test Corporation of America. All but one of the instructors agreed to take the ASQ, as did our department chair. This apparently insignificant request, to have faculty take the questionnaire, led, surprisingly, to one of our most significant findings, not about students and ASQ, but about instructor ASQ and student progress. "In this open-ended ASQ are twelve vignettes, little scenarios.. Half are about bad events...half are about good events. You are asked to imagine the event happening to you and to fill in the most likely cause (99)." Eighty students made up our initial sample; they took the ASQ, a preliminary writing sample, and filled out a demographic survey. Our long-range plans included, if the ASQ results provided statically significant data, developing strategic, early intervention for students whose hopelessness scores indicated they may be at risk for dropping out, a hot topic in some of Virginia's colleges and universities. We also planned to use demographic data to investigate links between demographics and helplessness and hopefulness scores on the ASQ. The final piece of the research design included the administering and evaluation of the post-course writing sample to see if students with ready reserves of optimism were likely to have improved their writing in the course of the semester. Judy will explain what all this means by providing some of the statistics, lovingly crunched by our SAS guru; some of our problems; and the implications for further study.

RESULTS/Discussion

Our research sought to answer three questions:

1. Does a student's attributional style, as measured by Dr. Seligman's Attributional Style Questionnaire, have any relationship to his/her achievement in a freshman writing class?

2. To what degree, if any, can attributional style serve as an indicator of potential achievement in freshman writing?

negative and positive events, scores for helplessness (pervasiveness and permanence of negative events) and hopefulness (pervasiveness and permanence of positive events) were examined as independent variables for their potential correlational relationships to our dependent variable, writing improvement. Scores for both helplessness and hopefulness can range anywhere from +2 to +14 and when combined with a respondent's degree of internalization, provide both a negative subscore and a positive subscore.

The composite score (CPCN), our third independent variable, measures an overall level of optimism and is derived by subtracting the negative subscore (helplessness plus internalization) from the positive subscore (hopefulness plus internalization). These total composite (CPCN) scores can range anywhere from -18 to +18. Therefore, high hopefulness scores minus low helplessness scores will generally equate to higher total composite scores.

As an example, one student from our sample has an internalization score of 5 for both positive and negative events. When this is added to his hopefulness score of 10 and his helplessness score of 5, his positive subscore equals 15, and his negative subscore equals 10, giving him a CPCN or composite score of +5.

Table 2 illustrates the relationship between students' diagnostic difference and helplessness scores.

TABLE 2 (appendix)

Based upon the frequency range found in our sample's helplessness scores, we divided this variable into three categorical ranges: Less than 6, 6.01 to 10, and more than 10. As previously mentioned, helplessness scores can range anywhere from +2 to +14 and measure the student's response to negative events. Therefore, it is important to remember that students who have high helplessness scores may be likely to have lower composite ASQ scores. In other words, a high helplessness score could be an indicator of low optimism which, theoretically, makes one less capable of achievement when externally challenged.

The majority of students in our sample had mid-range helplessness scores (6.01-10). Of this group, 55% showed writing improvement (increased diagnostic difference). However, those students with the highest helplessness scores (a potential

indicator of lower optimism), showed a 67% increase in diagnostic difference, whereas 0% of the students in the low helplessness-score range (a potential indicator of higher optimism) demonstrated an increased writing ability. Although these results are not statistically significant at the .05 level, gamma--a statistic which measures linear relationships--suggests that a moderate relationship does exist between these two variables. Interestingly, these results are inconsistent with the literature postulated by Seligman, who, after fifteen years of research on depression, determined that helplessness is a learned phenomenon which undermines achievement and interferes with an individual's ability to conquer challenges.

Table 3 reflects the relationship between students' diagnostic difference and hopefulness scores.

TABLE 3 (appendix)

Like the categorical ranges constructed for our helplessness scores, we divided our hopefulness scores into two categories (Less than 6.01 and 6.01 and greater) based on the frequency range found in our sample for this variable. Hopefulness scores can range anywhere from +2 to +14 and measure a student's response to positive events. Contrary to high helplessness scores, high hopefulness scores may lead to a higher composite score or CPCN and could be an indicator of higher optimism, a quality which makes one more likely to achieve under pressure.

The majority of students in our sample had higher-range hopefulness scores (6.01 or greater). Whereas 38% of those students with lower-range hopefulness scores showed writing improvement, 58% of students with higher-range hopefulness scores demonstrated increased ability in their writing performance. Although these results are not statistically significant at the .05 level, they are in a predicted direction. In other words, students with higher hopefulness scores are likely to show improved writing ability. Although we can't make generalizations about this variable in relationship to writing improvement, these results may warrant further research with a larger student sample in an attempt to achieve statistical significance. Furthermore, these results do support Seligman's theory about the value of a high hopefulness score and its importance in an individual's ability to overcome challenges.

Table 4 describes the relationship between students' diagnostic differences and composite ASQ scores (CPCN).

TABLE 4 (appendix)

For this independent variable (CPCN), we chose to use categorical divisions established by Dr. Seligman's research associates at the University of Pennsylvania. These divisions (or quartiles) are based upon the range of composite scores found among all college students who have been tested using the ASQ. Remembering that composite scores can fall anywhere between -18 and +18, the quartiles are divided as follows: (less than+2, 2-4, 4.01-6, more than 6). The majority of students in our sample had composite scores in the third (next to lowest) quartile (2-4) and demonstrated a 46% increase in writing ability. Those students whose scores fell in the second quartile (4.01-6) had a 54% increase in their diagnostic difference, whereas 43% of those students in the highest quartile (greater than 6) showed writing improvement. Furthermore, no student with a composite score greater than six evidenced any decrease between her pre- and post-course writing exercises. Finally, students in the lowest quartile (less than +2) showed a 70% improvement in their writing. Overall, the results of these statistics, though not statistically significant at the .05 level, refute, rather than support, Seligman's theory, which suggests that a high CPCN is the best indicator of an individual's ability to overcome stressors and succeed when challenged.

Table 5 illustrates the relationship between students' diagnostic differences and course instructor.

TABLE 5 (appendix)

As you may recall, six sections of freshman writing were included in our sample, and no two courses were taught by the same instructor. Instructors are indicated by numbers 1-6 at the top of the table. As table 5 reflects, the students in the classes taught by instructors #1 and #2 showed a 67% increase in their writing improvement as measured by pre-and post-course writing exercises. Those students in classes taught by instructors #3 and #6 demonstrated a 50% increase between their pre-and post-course writing exercises, whereas those students in the course taught by instructor #4 **showed only a 14% increase and a 43 % decrease in their diagnostic difference.** These results are statistically significant at the .05 level, and gamma reflects a moderate

relationship between instructor and diagnostic difference. Therefore, this result suggests that a student's writing achievement may be relatively influenced by instructor.

Limitations

As with other empirical research, our study has limitations which prohibit our ability to make generalizations or concrete assumptions about students' attributional styles in relationship to writing achievement. We identified our primary limitation as the 35% loss of our original sample, a condition which reduced our sample from 80 to 52 observations. Generally speaking, the larger the sample, the better. In retrospect, we realize that some of this sample erosion was inevitable--students withdraw from classes during the semester and some may no longer wish to participate in a study which requires an "extra" writing exercise. However, we also acknowledge that tighter research controls may have enabled us to recover a larger ending sample. Leaving the collection of data to others appears risky even when fellow faculty seem initially willing to assist.

A second limitation was the method we employed in evaluating pre-and post-course writing samples. Limited personnel restricted us to one reader, whereas several readers might have proven more valuable in the determination of diagnostic difference. Along the same lines, no "norming" process occurred prior to the samples' evaluations, a typical methodology employed for holistically evaluating student writing.

Finally, using any survey instrument, such as the ASQ, limits a test's reliability, no matter how valid the test may be, because respondents have the option of answering as they think they should rather than as they genuinely might under normal or non-survey conditions. Although the ASQ has been determined internally valid as a measurement of attributional style, the question still remains as to whether students were honest in their responses.

SUGGESTIONS FOR FUTURE RESEARCH

In closing, our "tip of the iceberg" study opens numerous possibilities for future research, and we would like to mention a few of them here. First, we would like to see this study replicated using a much larger student sample with several research controls implemented in order to reduce as much sample erosion as possible.

The results we have been able to ascertain lend particular interest to evaluating students' hopefulness scores on the ASQ and their relationship to writing achievement. Perhaps we view this independent variable as especially valuable because results from our limited data suggest hopefulness scores as a potential indicator of writing achievement. Furthermore, Seligman, himself, identifies the value of hopefulness as the most significant predictor of a positive explanatory style, saying, "No other single score is as important as [the] hope score" (*LO* 49).

Additionally, we see the statistically significant relationship between students' writing achievement and instructor in our study as a fertile area for more detailed research and analysis. What style a writing teacher uses in his classroom, what explanatory style he may have, or what level of responsibility he is willing to take for his students' success, in addition to other teacher "attributes," might be researched to determine more specifically just what makes some classes richer environments for writing.

Finally, future research might focus on the relationship between a student's "rhetoric" of attributional style and her writing achievement by conducting qualitative studies based on protocol models. Analyzing a student's "self talk," the dialogue of helplessness or hopefulness she carries on with herself while writing, evaluating her own writing, or revising after an instructor's evaluation, may offer us insight into how explanatory-style language influences rhetorical choices and rhetorical risk taking. And if students' explanatory rhetorics could predict writing achievement, then the value of these same rhetorics might transcend the boundaries of freshman writing classes and English departments by enabling colleges to develop intervention strategies--much like those Seligman offers in *Learned Optimism*--which might ebb the flow of dropouts and encourage "at risk" students to revise academically destructive self talk into academically constructive self talk.

Consequently, future research concerning attributional styles and the rhetorics which may accompany them as potential indicators of writing achievement offers us the opportunity to expand the territory known as freshman writing for our students and ourselves. Identifying students' attributional styles, evaluating their rhetorics, encouraging positive self talk, or helping students

develop new rhetorics which are more conducive to achievement will train us to be better listeners and may offer us insights into our own styles, our own rhetorics, and their influence on our teaching and our students' learning. Furthermore what students glean in freshman writing classes may transcend writing; they might learn about optimism, about the inherent force of language to foster human growth and change, about the power of their own voices.

Works Cited

Seligman, Martin E.P. Learned Optimism. New York: Simon & Schuster, 1992.

APPENDIX

TABLE 1 Descriptive Statistics of the Sample

	Before Erosion	After Erosion
Sample Size (n)	80	52
Mean Age	20.94	21.58
Number of Males	30	13
Number of Females	50	39
Number of Whites	53	34
Number of Minorities	27	18
Mean Number of Hours Employed	25.25	23.89
Mean Number of Courses Currently Enrolled at CNU	4.76	4.8
Mean Number of Courses Completed at CNU	5.32	5.6
Mean Number of Courses Completed Elsewhere	2.56	1.66
Mean GPA	2.56	2.5
Mean Helplessness Score (+2 to +14)	8.28	8.28
Mean Hopefulness Score (+2 to +14)	10.58	10.71
Mean Composite Score (-18 to +18)	3.33	3.

TABLE 2 Percentage Distribution of Diagnostic Difference by Helplessness Score

	Helplessness Score		
Diagnostic Difference	Less than 6	6.01 to 10	More than 10
Decrease	25.0	9.5	16.7
No Difference	75.0	35.7	16.7
Increase	0.0	54.8	66.6
Total	100.0	100.0	100.0
(n)	(4)	(42)	(6)

Chi-square (df=4) = 5.582
p. > .05
Gamma = .457

TABLE 3 Percentage Distribution of Diagnostic Difference by Hopefulness

	Hopefulness Score	
Diagnostic Difference	Less than 6.01	6.01 and greater
Decrease	18.8	8.4
No Decrease	43.7	33.3
Increase	37.5	58.3
Total	100.0	100.0
(n)	(16)	(36)

Chi-square (df=2) = 2.297
p. > .05
Gamma = .378

TABLE 4 Percentage Distribution of Diagnostic Difference by Composite Score

	Composite Score			
Diagnostic Difference	Less than 2	2 to 4	4.01 to 6	More than 6
Decrease	10.0	13.6	15.4	0.0
No Difference	20.0	40.9	30.7	57.1
Increase	70.0	45.5	53.9	42.9
Total	100.0	100.0	100.0	100.0
(n)	(10)	(22)	(13)	(7)

Chi-square (df=6) = 3.801
p. > .05
Gamma = -.113